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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,602	10/16/2003	Takeshi Hanai	2635-185	5153

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EXAMINER

AGRAWAL, CHRISTOPHER K

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/685,602

Applicant(s)

HANAI, TAKESHI

Examiner

Christopher K. Agrawal

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-16-2003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the Information Disclosure Statement filed October 16, 2003 have been considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujita (U.S. Patent No. 6,790,113).**

4. *Claim 1:* Fujita teaches a method for manufacturing a spark plug comprising a columnar center electrode **W₁** insulated and held inside a housing and a ground electrode **W₂** having one end being bonded to said housing wherein said ground electrode is bent at its intermediate portion so that the other end of said ground electrode is substantially perpendicular to an axial line of said center electrode, and said other end of said ground electrode is opposed to a distal end surface of said center electrode via a predetermined spark gap, said manufacturing method comprising: a

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bonding step of bonding one end of said ground electrode to said housing (**Col. 3 lines 48-49**); a provisional bending step, performed after said bonding step, of bending an intermediate portion of said ground electrode with a pressing die so that the other end of said ground electrode is opposed to a distal end surface of said center electrode (**Col. 6 lines 6-22**); and a regular bending step, performed after said provisional bending step, of adjusting a position of the other end of said ground electrode so as to adjust the dimension of said spark gap (**Col. 6 lines 47-64**), wherein receiving dies **3, 4** are prepared for regulating a shift range of a distal end surface of said other end of said ground electrode in a direction perpendicular to said axial line in the process of bending the intermediate portion of said ground electrode in said provisional bending step (**Col. 7 lines 1-15**), and in said provisional bending step, said intermediate portion of said ground electrode is bent until said distal end surface **W_{3f}** of said other end of said ground electrode is brought into contact with said receiving dies (**Fig. 4; Col. 6 lines 6-22**).

5. Claim 2: Fujita also teaches the method of claim 1, wherein the position of said pressing die in said axial line in said provisional bending step is determined with reference to the position of said distal end surface of said center electrode (**Col. 2 lines 17-19**).

6. Claim 4: Fujita also teaches the method of claim 2, wherein the position of said distal end surface of said center electrode is measured by image processing (**Col. 2 lines 64-67; Col. 6 lines 57-60**).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita in view of Tanaka et. al. (U.S. Patent No. 4,570,474).**

9. Fujita teaches the method of claim 1 as described above but fails to teach the provisional bending step to be performed in a condition that both sides of said ground electrode are clamped by said receiving dies when said ground electrode is seen from said axial line.

10. Tanaka et. al. teaches that it is conventional to perform a bending step in a condition that both sides of the workpiece are clamped by receiving dies while the workpiece is seen from an axial line for the purpose of supporting the sides to prevent transverse bending (**Figure 2**).

11. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the prior art clamping dies of Tanaka et. al. in the dies of Fujita for the purpose of preventing transverse bending.

Conclusion

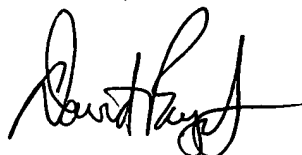
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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Agrawal whose telephone number is (571) 272-3578. The examiner can normally be reached on Mon-Fri 8AM-4:30PM.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CKA



David P. Bryant
Primary Examiner

Christopher Agrawal
Patent Examiner
Art Unit 3726